

FORM PTO-1449 (modified)
To: U.S. Department of Commerce
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528 Rec'd PCT/PTO 19 DEC 2000

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275901

AFG/Z70363/UST

**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

Applicant: SMITH, John Craig et al

Appln. No.:

09/720531

Filing Date: December 19, 2000

Date: December 19, 2000

Page

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of

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Examiner:

Group Art Unit:

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
	AR	5 707 815	01/1998	Charo Israel F et al		
	BR					
	CR					
	DR					

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract		Translation Readily Available	
					Enclosed	No	Enclose	No
	ER	WO 97/40462	10/1997	WIPO				
	FR							
	GR							
	HR							
	IR							
	JR							

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

KR	PATENT ABSTRACTS OF JAPAN, vol. 1998, no. 01, 30 January 1998 & JP 09 238688 A (TAKEDA CHEM IND LTD), 16 September 1997 * see especially nucleotides at polymorphic positions 780 and 1044* abstract; figure 1			
LR	SMITH ET AL : "Contrasting genetic influence of CCR2 and CCR5 variants on HIV-1 infection and disease progression " SCIENCE, vol. 277, 15 August 1997, pages 959-965, XP002099015 ISSN : 0036-8075 * see especially point 31 of the notes* the whole document			
MR	KOSTRIKIS ET AL: " Achemokine receptor CCR2 allele delays HIV-1 disease progression is associated with a CCR5 promoter mutation" NATURE MEDICINE, vol. 4, no. 3, March 1998, pages 350-353, XP002099017 ISSN: 1078-8956 cited in the application, the whole document			
NR	WONG L-M ET AL: "Organization and differential expression of the human monocyte chemoattractant protein 1 receptor gene" JOURNAL OF BIOLOGICAL CHEMISTRY, vol.272, no. 2, 1997, pages 1038-1045, XP002121129, cited in the application the whole document & DATABASE GENBANK Online! Accession number (AC): U80923, 1997 WONG L M ET AL.: "Organization and differential expression of the human monocyte chemoattractant protein 1 receptor gene" * see especially nucleotides at polymorphic positions 42673 and 42874* abstract			
OR	DATABASE GENBANK 'Online! Accession number (AC): T40384, 1995 HILLIER ET AL.: "The WashU-Merck EST project" XP002131229 * see especially nucleotides at polymorphic position 41768* abstract			
PR	SOZZANI S ET AL.: "MCP-1 and CCR2 in HIV infection regulation of agonist and receptorexpression " JOURNAL OF LEUKOCYTE BIOLOGY, vol.62, July 1997, XP002099019 ISSN: 0741-5400 the whole document			

Examiner

Date Considered:

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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	AR					
	BR					
	CR					
	DR					

FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	English Abstract	Translation Readily Available
					Enclosed	No
	ER					
	FR					
	GR					
	HR					
	IR					
	JR					
	KR					
	LR					
	MR					
	NR					

OTHER (Including in this order Author, Title, Periodical Name, Date, Pertinent Pages, etc.)

OR	MUMMIDI S ET AL.: "Genealogy of the CCR5 locus and chemokine system gene variants associated with altered rates of HIV-1 disease progression" NATURE MEDICINE, vol. 4, no. 7, 1998, pages 786-793, XP002121126 abstract, page 786, column 1, paragraph 1-column 2, paragraph 2, page 789, column 2, paragraph 2-page 792, column 2, paragraph 3; figure 1; tables 1-3			
PR	NEWTON C R ET AL.: "ANALYSIS OF ANY POINT MUTATION IN DNA. THE AMPLIFICATION REFRACTORY MUTATION SYSTEM (ARMS) " NUCLEIC ACIDS RESEARCH, vol. 17, no. 7, 11 april 1989, pages 2503-2516, XP000141596 ISSN: 0305-1048 the whole document			
QR	ANZALA A O ET AL.: "CCR2-641 allele and genotype association with delayed AIDS progression in african women" THE LANCET, vol. 351, 1998, pages 1632-1633, XP002121127 the whole document			
RR	RIZZARDI G P ET AL.: "CCR2 polymorphism and HIV disease" NATURE MEDICINE, vol. 4, no. 3, 1998, pages 252-253, XP002121128 the whole document			
SR				
TR				

Examiner

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INTERNATIONAL SEARCH REPORT

Int lional Application No
PCT/GB 99/02341

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 01, 30 January 1998 (1998-01-30) & JP 09 238688 A (TAKEDA CHEM IND LTD), 16 September 1997 (1997-09-16)	4
Y	* see especially nucleotides at polymorphic positions 780 and 1044 * abstract; figure 1	1-3,5,6, 8-11
X	SMITH ET AL: "Contrasting genetic influence of CCR2 and CCR5 variants on HIV -1 infection and disease progression" SCIENCE, vol. 277, 15 August 1997 (1997-08-15), pages 959-965, XP002099015 ISSN: 0036-8075	5,6
Y	* see especially point 31 of the notes * the whole document	1,2

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Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

22 February 2000

Date of mailing of the international search report

07. 03. 2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.

Authorized officer

INTERNATIONAL SEARCH REPORT

Int. l. Application No

PCT/GB 99/02341

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KOSTRIKIS ET AL: "A chemokine receptor CCR2 allele delays HIV -1 disease progression is associated with a CCR5 promoter mutation" NATURE MEDICINE, vol. 4, no. 3, March 1998 (1998-03), pages 350-353, XP002099017 ISSN: 1078-8956 cited in the application	5,6
Y	the whole document	1,2
X	WONG L-M ET AL.: "Organization and differential expression of the human monocyte chemoattractant protein 1 receptor gene" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 272, no. 2, 1997, pages 1038-1045, XP002121129 cited in the application the whole document & DATABASE GENBANK 'Online! Accession number (AC): U80923, 1997 WONG L M ET AL.: "Organization and differential expression of the human monocyte chemoattractant protein 1 receptor gene" * see especially nucleotides at polymorphic positions 42673 and 42874 * abstract	4
X	DATABASE GENBANK 'Online! Accession number (AC): T40384, 1995 HILLIER L ET AL.: "The WashU-Merck EST project" XP002131229 * see especially nucleotides at polymorphic position 41768 * abstract	4
Y	SOZZANI S ET AL: "MCP -1 and CCR2 in HIV infection: regulation of agonist and receptor expression" JOURNAL OF LEUKOCYTE BIOLOGY, vol. 62, July 1997 (1997-07), pages 30-33, XP002099019 ISSN: 0741-5400 the whole document	8-10
Y	US 5 707 815 A (CHARO ISRAEL F ET AL) 13 January 1998 (1998-01-13) cited in the application the whole document	8-10

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INTERNATIONAL SEARCH REPORT

Int tional Application No
PCT/GB 99/02341

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	MUMMIDI S ET AL.: "Genealogy of the CCR5 locus and chemokine system gene variants associated with altered rates of HIV-1 disease progression" NATURE MEDICINE, vol. 4, no. 7, 1998, pages 786-793, XP002121126 abstract page 786, column 1, paragraph 1 -column 2, paragraph 2 page 789, column 2, paragraph 2 -page 792, column 2, paragraph 3; figure 1; tables 1-3	1,5,6
Y	WO 97 40462 A (SPECTRA BIOMEDICAL INC) 30 October 1997 (1997-10-30) cited in the application the whole document	11
Y	NEWTON C R ET AL: "ANALYSIS OF ANY POINT MUTATION IN DNA. THE AMPLIFICATION REFRACTORY MUTATION SYSTEM (ARMS)" NUCLEIC ACIDS RESEARCH, vol. 17, no. 7, 11 April 1989 (1989-04-11), pages 2503-2516, XP000141596 ISSN: 0305-1048 the whole document	1,3
A	ANZALA A O ET AL.: "CCR2-64I allele and genotype association with delayed AIDS progression in african women" THE LANCET, vol. 351, 1998, pages 1632-1633, XP002121127 the whole document	
A	RIZZARDI G P ET AL.: "CCR2 polymorphism and HIV disease" NATURE MEDICINE, vol. 4, no. 3, 1998, pages 252-253, XP002121128 the whole document	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/GB 99/ 02341

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No
PCT/GB 99/02341

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 09238688 A	16-09-1997	NONE	
US 5707815 A	13-01-1998	AU 1679395 A EP 0740701 A JP 9508264 T WO 9519436 A	01-08-1995 06-11-1996 26-08-1997 20-07-1995
WO 9740462 A	30-10-1997	AU 2734197 A EP 0897567 A	12-11-1997 24-02-1999